Missouri Assessment Program

Guide to Interpreting Results

Communication Arts and Mathematics

Revised 2007

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This guide has been prepared by CTB/McGraw-Hill to provide an overview for interpreting reports generated from the Missouri Assessment Program (MAP) for Communication Arts and Mathematics. It is intended to help educators apply MAP data to the needs of individual students and the district as a whole. This guide applies to Communication Arts and Mathematics ONLY. For Science and Social Studies, please refer to the "2005 Guide to Interpreting Results," located online at: http://dese.mo.gov/divimprove/sia/dar/GIR_Spring05_MO.pdf

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Introduction

Education Assessment: A Primary Tool

Assessment, or testing, fulfills a vital role in today's education environment. Assessment results often are a major force in shaping public perceptions about the capabilities of our students and the quality of our schools. As a primary tool for educators and policymakers, assessment is used for many important purposes. Educators use assessment results to help improve teaching and learning, and to evaluate programs and schools. Assessment is also used to generate the data upon which policy decisions are made. Because of the important role it performs, educational assessment is a foundation activity in every school, district, and state. It is vital to innovation, higher standards, and educational excellence.

The **Missouri Assessment Program (MAP)** is one of several educational reforms mandated by the Outstanding Schools Act of 1993. As a result of this act, the State Board of Education directed the Missouri Department of Elementary and Secondary Education to identify the knowledge, skills, and competencies that Missouri students should acquire by the time they complete high school and to evaluate student progress toward those academic standards. The Department engaged teachers, school administrators, parents, and business professionals from throughout the state to develop the Show-Me Standards/GLE Strands and the assessment system that evaluates students' proficiencies as represented by the Show-Me Standards/GLE Strands.

The Spring 2007 MAP includes the following assessments:

Required

- Communication Arts, Grades 3–8 and 11
- Mathematics, Grades 3–8 and 10

Voluntary

- Science, Grades 3, 7, and 10
- Social Studies, Grades 4, 8, and 11

Each assessment could require three to five hours of test administration time and may include any of three types of test items: selected-response items, constructed-response items, and performance events (including writing prompts).

The **selected-response (also known as multiple-choice) items** present students with a question followed by three or four response options. For the Communication Arts and Mathematics assessments, a subset of selected-response items are taken from the Survey edition of *TerraNova*®, *The Second Edition*, a nationally normed test developed by CTB/McGraw-Hill. Science and Social Studies assessments, Session 3, Part 1, is also from *TerraNova*.

The **constructed-response items** require students to supply (rather than select) an appropriate response. Students are asked to show their work in answering questions. In addition to measuring students' content knowledge, constructed-response items provide information about how students arrive at their answers.

The **performance events** used in Missouri's statewide assessment require students to work through more complicated items. Performance events often allow for more than one approach to get a correct answer. The advantage of this type of assessment item is that it provides insight into a student's ability to apply knowledge and understanding in real-life situations.

The writing prompt, a special type of performance event that appears in the Communication Arts assessment, is an open-ended item that requires students to demonstrate their writing proficiency. Writing is scored holistically using a four-point scoring guide.

The Department uses the information obtained through MAP to monitor the progress of Missouri's students in meeting the Show-Me Standards/GLE Strands, to inform the public and the state legislature about students' performance, and to help make informed decisions about educational issues. The information obtained through MAP provides the data that drives student services throughout the state.

The **MAP reports** provide useful information for determining the performance of students in your school and classroom. Emphasis should be placed on identifying students who are below proficiency in a particular test area so that a course of action may be determined that will meet the students' specific needs. Consider the use of locally designed formative and summative assessments aligned to the Show-Me Standards/GLE Strands to provide more detailed information for each student in specific test areas.

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Show-Me Content Standards/GLE Strands

MAP items are aligned with the Show-Me Standards/GLE Strands. The Show-Me Content Standards/GLE Strands are grouped by content area.

Communication Arts Content Standards

In Communication Arts, students in Missouri public schools will acquire a solid foundation that includes knowledge of and proficiency in:

1. speaking and writing Standard English (including grammar, usage, punctuation, spelling, capitalization)
2. reading and evaluating fiction, poetry, and drama
3. reading and evaluating nonfiction works and material (such as biographies, newspapers, technical manuals)
4. writing formally (such as reports, narratives, essays) and informally (such as outlines, notes)
5. comprehending and evaluating the content and artistic aspects of oral and visual presentations (such as story-telling, debates, lectures, multi-media productions)
6. participating in formal and informal presentations and discussions of issues and ideas
7. identifying and evaluating relationships between language and culture

Mathematics GLE Strands

In Mathematics, students in Missouri public schools will acquire a solid foundation that includes knowledge of:

1. **Number and Operations**
   addition, subtraction, multiplication, and division; estimation and computing techniques; number representations, systems, and relationships; use of these operations and concepts in the workplace and other situations
2. **Algebraic Relationships**
   algebraic concepts including patterns, relations, and functions; represent and analyze mathematical structures using algebraic symbols; understand quantitative relationships; analyze change in various contexts
3. **Geometric and Spatial Relationships**
   geometric and spatial sense including analysis of characteristics/properties of geometric shapes; arguments about geometric relationships; coordinate geometry; symmetry and transformations; visualization, spatial reasoning, and geometric modeling
4. **Measurement**
   measurable attributes of objects and the units, systems, and processes of measurement; use of appropriate techniques, tools, and formulas to determine measurements
5. **Data and Probability**
   data collection and statistical reasoning; formulating questions to be addressed with data analysis and statistics; develop and evaluate inferences based on data; understand and apply probability concepts

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Show-Me Performance Standards

The Show-Me Performance Standards are grouped by goals. For a more detailed explanation of the performance standards, please refer to the Show-Me Standards/GLE Strands document or the DESE website (http://dese.mo.gov/standards).

Goal 1—Students in Missouri public schools will acquire the knowledge and skills to gather, analyze and apply information and ideas.

1. develop research questions/ideas
2. conduct research
3. design/conduct investigations
4. organize information using tools
5. comprehend/evaluate resources
6. discover/evaluate relationships
7. evaluate information
8. organize data and ideas
9. compare past and present societies
10. apply information, ideas, skills

Goal 2—Students in Missouri public schools will acquire the knowledge and skills to communicate effectively within and beyond the classroom.

1. plan and make presentations
2. revise communications
3. exchange ideas and take others' perspectives
4. present perceptions and ideas
5. produce works in the arts
6. apply communication techniques
7. use information technology

Goal 3—Students in Missouri public schools will acquire the knowledge and skills to recognize and solve problems.

1. identify and define problems
2. apply others' strategies
3. apply one's own strategies
4. evaluate problem-solving processes
5. reason logically
6. examine solutions from many perspectives
7. evaluate strategies
8. assess consequences

Goal 4—Students in Missouri public schools will acquire the knowledge and skills to make decisions and act as responsible members of society.

1. support decisions
2. understand and apply citizenship rights
3. analyze individuals' responsibilities
4. practice honesty and integrity
5. develop/revise plans of action
6. identify cooperative tasks
7. apply safety/health practices
8. explore/seek opportunities

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Assessment Terms and Types of Scores

Familiarity with the testing terms and the types of scores used in the MAP reports and other components will help you interpret test information accurately and efficiently.

MAP Scale Score

CTB/McGraw-Hill uses the students' correct responses and points earned to derive a MAP Scale Score. The scale score describes achievement on a continuum that in most cases spans the complete range of Grades 3–8, 10 and 11. These scores range in value from 450 to 910, across grade levels and content areas. The MAP score ranges can be found with the achievement-level descriptors beginning on page 5 of this guide. Scale scores can be added, subtracted, and averaged. A student receives a MAP Scale Score only when all sessions of the test have been taken, and that MAP Scale Score determines the student's achievement level.

Achievement Levels

Student performance can be reported in terms of four performance, or achievement, levels that describe a pathway to proficiency. Each achievement level represents standards of performance for each assessed content area (Communication Arts and Mathematics). Panels drawn from educational, business, and professional communities determined the standards. Achievement-level scores provide a description of what students can do in terms of the content and skills assessed. These scores are a means of comparing test results with standards of academic performance.

TerraNova National Percentile

National Percentiles (NPs) are determined from a subset of items within the Communication Arts and Mathematics tests. This session is the nationally norm-referenced *TerraNova* Survey. The NPs indicate what percentage of students' scores in the norming sample for a given grade fell below a certain point. For example, a student who is at the twenty-fifth NP scored higher than 25 percent of the norm group. The fiftieth percentile is the middle score—also called the *median*—above and below which half the students scored. NPs should not be added, subtracted, or averaged.

Median NP

This score is used to describe central tendency. The median is the middle score in a set of ranked scores. It divides the distribution into two equal halves. Medians are less affected by extreme scores than are means. The median is the preferred score for comparing groups that have many very high, or very low scores.

NP of the Mean NCE

This score is also used to describe central tendency. The Normal Curve Equivalent (NCE) is an equal-interval scale and can be treated arithmetically. The mean NCE is computed by adding the NCE scores of all the students in the group with MAP scores and then dividing by that number of students. The NP for that "arithmetic average" (mean NCE) is included in the Spring Norms Book for *TerraNova*, *The Second Edition*.

Lexile Score

The student's Lexile Score is from *The Lexile Framework for Reading*—a scale that matches reader ability with appropriate reading materials. The score is the point on the scale where a reader can be expected to comprehend 75 percent from a list of recommended reading materials. Note: Lexile scores are only reported for Communication Arts, and are derived from *TerraNova* Reading items only. Further information is available on the Lexile website (http://www.lexile.com).

Standard Error of Measurement

A common concern regarding Lexile scores arises when states and districts obtain different Lexile scores for the same student from different tests even though the tests are administered in close proximity to one another. No test provides a perfect measure of the student's ability. This situation is expected since all tests have a known Standard Error of Measurement (SEM). The SEM reports the amount of variability that can be expected in a student's test score due to the inherent imprecision of the test. In other words, because no single test is a perfect indictor of a student's ability, students' Lexile scores are expected to vary between different tests.

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Achievement Levels

Communication Arts Abbreviated Achievement-Level Descriptors

Grade 3

Below Basic

Reading—Students locate information in text; identify an obvious main idea; define simple words and phrases. Writing—Students show minimal awareness of beginning, middle, end, audience, purpose and controlling idea; attempt to create friendly letters; use graphic organizers.

MAP score range: 455–591.

Basic

Reading—Students make simple comparisons; recall simple sequence of events; make obvious inferences and predictions; use context clues to determine word meaning. Writing—Students use basic parts of speech correctly in simple sentences; show minimal awareness of beginning, middle, end, audience, purpose and controlling idea.

MAP score range: 592–647.

Proficient

Reading—Students locate/identify supporting details, obvious cause and effect; make inferences; use context clues to determine word meaning; make comparisons; recall detailed sequence of events; identify solutions and fact vs. fiction; recognize figurative language; draw obvious conclusions. Writing—Students generally use rules of Standard English; show awareness of audience, purpose, controlling idea, relevant details, beginning, middle and end.

MAP score range: 648–672.

Advanced

Reading—Students identify relevant/supporting information to make predictions and draw conclusions; infer word meaning; infer main idea; make complex comparisons; make complex inferences; categorize information; identify correct sequence of events. Writing—Students consistently apply rules of Standard English; construct complex sentences; use details effectively; have a clear controlling idea, awareness of audience and purpose, beginning, middle and end.

MAP score range: 673–790.

Grade 4

Below Basic

Reading—Students locate information in text; recall stated information; draw obvious conclusions; make simple comparisons and descriptions. Writing—Students write simple letters, minimally use the rules of Standard English; attempt to organize information.

MAP score range: 470–611.

Basic

Reading—Students identify appropriate details; use context clues; make obvious inferences; select vocabulary using context clues. Writing—Students write simple letters with an awareness of an intended audience and purpose; generally use the rules of Standard English.

MAP score range: 612–661.

Proficient

Reading—Students make simple inferences; recall, identify, and use relevant information; draw conclusions; explain figurative language and main idea; use context clues to select vocabulary; identify character traits, sensory details, and simple cause and effect. Writing—Students show organization and awareness of an intended audience and purpose; use the rules of Standard English; use a writing process to revise, edit, and proofread.

MAP score range: 662–690.

Advanced

Reading—Students make complex inferences and comparisons; evaluate simple information; infer cause/effect and word meaning; interpret figurative language; identify author's purpose; identify complex problems/solutions; explain complex main ideas. Writing—Students consistently use the rules of Standard English.

MAP score range: 691–820.

Grade 5

Below Basic

Reading—Students locate/identify information in text; draw simple conclusions; make obvious inferences and predictions; identify character traits. Writing—Students use correct letter writing format; partially organize information.

MAP score range: 485–624.

Basic

Reading—Students identify supporting details, problems/solutions; use context clues; make obvious inferences; give partial summary of action. Writing—Students edit for Standard English.

MAP score range: 625–674.

Proficient

Reading—Students interpret figurative language; infer main idea; identify author's purpose, point of view, the sequence of information, cause/effect, the meaning of vocabulary; summarize; distinguish between fact and opinion; draw conclusions; make inferences and comparisons; support a position. Writing—Students use the rules of Standard English; construct complex sentences; edit for appropriate support, organize information.

MAP score range: 675–701.

Advanced

Reading—Students interpret and draw conclusions from complex information; analyze complex characters; infer author's purpose and word meaning; categorize information; make simple evaluations and judgments; determine the appropriateness of a source and the accuracy of information. Writing—Students consistently use the rules of Standard English; use a writing process to organize information.

MAP score range: 702–840.

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Communication Arts Abbreviated Achievement-Level Descriptors

Grade 6

Below Basic

Reading—Students locate/identify information in text; make simple inferences; identify main idea, sensory information, figurative language, simple problems or solutions. Writing—Students show awareness of audience and letter format; use simple organizational techniques and graphic organizers; use simple rules of Standard English.

MAP score range: 505–630.

Basic

Reading—Students identify supporting information, simple cause/effect relationships, conflicts, point of view and problem-solving processes. Writing—Students use correct letter writing format; generally use the rules of Standard English including spelling; revise; have a controlling idea.

MAP score range: 631–675.

Proficient

Reading—Students identify author's purpose, supporting details, point of view; describe character traits, plot; identify problems/solutions; support a position with text-based details; draw conclusions; interpret figurative language; make inferences and predictions; locate resources. Writing—Students use the rules of Standard English; construct complex sentences; write for an audience and purpose; organize information.

MAP score range: 676–703.

Advanced

Reading—Students make complex connections; analyze complex characters; evaluate the accuracy and importance of information; draw conclusions and make inferences from complex information, analyze complex characters; determine cause and effect; paraphrase. Writing—Students demonstrate consistent use of a controlling idea and Standard English.

MAP score range: 704–855.

Grade 7

Below Basic

Reading—Students locate and apply information in text; identify figurative language, text elements, and problems/solutions, character traits; make obvious predictions. Writing—Students organize information; use some components of letter writing format; generally stay on topic; show awareness of audience and purpose; minimally use rules and conventions of Standard English.

MAP score range: 515–633.

Basic

Reading—Students identify text-based details; identify main idea; make simple summaries; identify the meaning of figurative language; draw simple conclusions; make simple inferences. Writing—Students use a writing process; edit for appropriate support; revise for a controlling idea; generally use the rules of Standard English.

MAP score range: 634–679.

Proficient

Reading—Students make inferences; summarize; make comparisons and predictions using complex text; analyze characters; determine word meaning, point of view, supporting information; locate resources. Writing—Students stay on topic; write for a specific audience and purpose; demonstrate consistent use of a controlling idea; use rules and conventions of Standard English; use complex sentences, cohesive devices, clear and varied sentences.

MAP score range: 680–711.

Advanced

Reading—Students interpret complex figurative language and vocabulary; support a position; make predictions; summarize, analyze, and synthesize information and techniques; paraphrase ideas. Writing—Students consistently use the rules and conventions of Standard English; use logical order, cohesive devices, clear and varied sentences, writing techniques; target specific audience and purpose.

MAP score range: 712–865.

Grade 8

Below Basic

Reading—Students identify author's purpose, figurative language, plot, and setting; use context clues to choose vocabulary. Writing—Students create a graphic organizer; write a basic paragraph; show some awareness of audience.

MAP score range: 530–638.

Basic

Reading—Students define simple vocabulary; identify main idea; draw simple conclusions; make simple inferences; recall details from text; determine reliability of resources. Writing—Students write a paragraph to a specific audience.

MAP score range: 639–695.

Proficient

Reading—Students summarize; infer vocabulary meaning and cause/effect; interpret figurative language; analyze text features; follow multi-step directions; identify author's technique; analyze text; make inferences, interpretations, predictions, comparisons, using complex material; evaluate evidence, reliability of resources. Writing—Students edit for relevant details and purpose; organize and edit text; consistently use rules/conventions of Standard English.

MAP score range: 696–722.

Advanced

Reading—Students analyze complex information, author's purpose, characters; synthesize information; summarize complex ideas; make complex inferences. Writing—Students edit text correctly applying the rules/conventions of Standard English.

MAP score range: 723–875.

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Communication Arts Abbreviated Achievement-Level Descriptors

Grade 11

Below Basic

Reading—Students identify figurative language, plot, setting, and main idea; explain main idea; determine pertinent details. Writing—Students use correct letter writing format; address a topic with some detail; defend a position; create and label an appropriate graphic organizer.

MAP score range: 545–678.

Basic

Reading—Students determine pertinent details; categorize information; determine reliability of information; explain cause/effect; make simple comparisons; infer meaning; identify main idea; analyze figurative language. Writing—Students attempt to use the rules/conventions of Standard English; create and label an appropriate graphic organizer; compose an essay with a beginning, middle and end.

MAP score range: 679–724.

Proficient

Reading—Students analyze significant details, figurative language, use of information, characters, reasoning, author's purpose, cause/effect; infer meaning; summarize complex ideas/information; determine tone; identify supporting information; make sophisticated comparisons; evaluate style; distinguish fact/opinion. Writing—Students use the rules/conventions of Standard English; write with a controlling idea for a specific audience; use cohesive devices and complex sentences.

MAP score range: 725–752.

Advanced

Reading—Students evaluate reliability of sources; analyze complex figurative language; infer connections; evaluate adequacy of support; make inferences and comparisons from complex text. Writing—Students consistently apply the rules/conventions of Standard English; follow a writing process to compose a well-developed and organized essay with a controlling idea, relevant details; use precise language.

MAP score range: 753–885.

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Mathematics Abbreviated Achievement-Level Descriptors

Grade 3

Below Basic

Students use multiplication to model situations; recognize that addition and subtraction are inverse operations; add 2-digit numbers; apply subtraction skills; extend shapes or numbers in a pattern; use number sentences to model situations; use transformations to check congruency of shapes; recognize a line of symmetry; use an appropriate unit on a ruler to measure length; estimate length; interpret information from graphs.

MAP score range: 450–567.

Basic

Students estimate with less-than and greater-than; sort items by size; apply regrouping for adding and subtracting 3-digit numbers; order 3-digit whole numbers; count using numbers and pictures; identify and explain a pattern; use an appropriate unit of measurement; read thermometers; read analog clocks to nearest 5 minutes; use a ruler to measure to the nearest centimeter; compare data; transfer data to graphs.

MAP score range: 568–627.

Proficient

Students identify odd/even numbers; locate landmark numbers; describe change using increase/decrease; perform basic division of 2-digit whole numbers; identify and locate fractional parts; set up/solve simple word problems; recognize 2-D and 3-D shapes; combine 3-D solids; identify 2-D faces of 3-D objects; determine perimeter of polygons; identify appropriate units of measure; add monetary values up to $5.00; use calendars to determine dates; estimate length with fractions.

MAP score range: 628–666.

Advanced

Students estimate and justify results of addition/subtraction of numbers; represent a mathematical situation as a number sentence or an expression; identify multiple lines of symmetry; determine change from $5.00 including different combinations of coins; predict events as likely or unlikely.

MAP score range: 667–780.

Grade 4

Below Basic

Students write and compare decimals to the hundredths place; identify fraction as a part of a whole; describe the results of combining shapes; identify parallel lines; estimate linear measurements; read and compare data on a bar graph; complete tables; create tables or graphs to represent data.

MAP score range: 465–595.

Basic

Students use multiplication to solve problems; analyze patterns using words, tables, and graphs; identify the missing value in a number sentence; identify 2-D and 3-D shapes and attributes; identify the results of transformations; tell time to the nearest minute; use benchmarks to estimate linear measurements; transfer numerical data to a graph; propose and justify conclusions that are based on data.

MAP score range: 596–650.

Proficient

Students compare parts of a whole as fractions; identify place value up to 6-digit whole numbers; decompose/compose whole numbers; represent multiplication using sets/arrays; divide 3-digit by 1-digit numbers; write a number sentence; describe movement on grid using geometric vocabulary; identify lines of symmetry; use standard/metric units to measure; add/subtract money values to $10.00; determine area on grid; read/interpret data on a line plot; analyze and explain data.

MAP score range: 651–687.

Advanced

Students describe constant rates of change; identify strategies to solve problems; describe numeric and geometric patterns; solve problems using graphs, tables, or number sentences; construct a figure with one line of symmetry; determine differences in measures; estimate measurement of angles; determine change from $10.00; identify equivalent linear measures within a system; count combinations of items.

MAP score range: 688–805.

Grade 5

Below Basic

Students recognize equivalent representations of numbers by composing and decomposing numbers up to 5 digits; order decimals to thousandths place; interpret place value to hundred-thousands; determine operations used in numeric patterns; use symmetry to complete figures; make generalizations about geometric patterns; describe attributes of 2-D shapes; identify data on a line graph; make and justify predictions using data; describe, compare, and organize data in a bar graph.

MAP score range: 480–604.

Basic

Students identify place value to the millions place; read, write, and compare unit fractions and decimals to the thousandths place; identify lines of symmetry; identify appropriate units of area; identify appropriate units of measure; use data to create a bar graph and perform calculations using numbers between given intervals.

MAP score range: 605–667.

Proficient

Students multiply decimals to the hundredths place; use estimation in computations; divide 3-digit by 2-digit numbers; add fractions with like denominators; solve problems involving rates of change; extend numeric patterns; complete number sentences; identify faces of 3-D and similar figures; interpret direction on a coordinate grid; calculate area using a grid; compute elapsed time in hours; analyze data in line graphs and tables; explain the probability of a simple event.

MAP score range: 668–705.

Advanced

Students use addition/subtraction of money in a real-world situation; explain and justify the results of calculations; justify and model the results of calculations involving constant rates; use number sentences to model a mathematical situation; analyze characteristics of and identify 3-D figures, quadrilaterals, and angle measures; use a coordinate grid to describe paths and determine distances between points; convert between standard units of measurement.

MAP score range: 706–830.

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Mathematics Abbreviated Achievement-Level Descriptors

Grade 6

Below Basic

Students compare and order integers, positive rational numbers, and percents; describe patterns in tables and pictures; identify properties of 2-D and 3-D shapes; identify acute, obtuse, or right angles; identify transformations of 2-D shapes; identify equivalent algebraic expressions using the associative property; read and interpret line and circle graphs.

MAP score range: 495–627.

Basic

Students generate equivalent forms of percents, fractions and decimals; determine a rule for a geometric or numeric pattern; use coordinate geometry to construct and identify 2-D shapes using ordered pairs; use models to compare and explain probabilities; estimate and interpret data in graphs.

MAP score range: 628–680.

Proficient

Students add/subtract positive rational numbers; identify least common multiple and greatest common factor; estimate quotients; determine rate of increase; analyze rates of change; use variables; compare spatial views of 3-D objects; construct polygons; describe transformations; determine area of rectangles; measure angles; convert within a system of measure; interpret and complete a table based on probability; compare/explain data; calculate measures of center.

MAP score range: 681–720.

Advanced

Students estimate and convert measurements; describe solutions to algebraic equations; recognize similarities between 2-D shapes; use properties of basic figures to draw conclusions about angle size; determine area of triangles; solve elapsed time problems; apply formula for perimeter; estimate area of a figure using a coordinate grid; interpret stem-and-leaf plots; determine appropriate data collection methods and questions; interpret data to solve problems.

MAP score range: 721–845.

Grade 7

Below Basic

Students place integers on a number line; identify shapes from a group of 2-D shapes based on a common property; transform 2-D shapes; analyze precision and accuracy using measurement tools; identify unit of measure for volume; interpret bar graphs; use representations of data from bar graphs, circle graphs, stem-and-leaf plots, and box-and-whisker plots; predict outcomes using probability.

MAP score range: 510–639.

Basic

Students multiply and divide positive rational numbers; identify bases and exponents of numbers in exponential form; recognize equivalent numerical representations; solve 2-step problems; use variables to solve inequalities and equations; analyze patterns represented numerically or graphically; read and interpret graphs.

MAP score range: 640–684.

Proficient

Students read/write numbers up to hundred-millions place; compare integers, rational numbers, percents; perform operations with mixed numbers; use circle graphs to recognize relationship of parts to whole; solve fraction/decimal/percent problems; solve proportion/scale problems; use models to solve problems; model with equations; describe and classify 2-D/3-D shapes; apply spatial reasoning to estimate area; solve time problems; solve area problems; calculate measures of center.

MAP score range: 685–723.

Advanced

Students calculate totals involving percents in multi-step problems; extend non-linear patterns; model with inequalities; apply the relationship of corresponding and similar angles; use scale factors on a grid to dilate shapes; describe corresponding angles and sides of similar polygons; solve problems using time conversions; find circumference and area of circles; make conversions using proportions.

MAP score range: 724–860.

Grade 8

Below Basic

Students generalize numeric patterns; generalize relationships between attributes of 2-D shapes; identify the results of subdividing 3-D shapes; identify 3-D figures using a 2-D representation; solve problems involving area; use scales to estimate distance; interpret graphs; find the mean value of a data set; select graphical representations of data; interpret data; make conjectures based on theoretical probability.

MAP score range: 525–669.

Basic

Students perform operations with rational numbers; solve and interpret one-step linear equations; extend geometric patterns; generalize patterns to find a specific term; identify relationships in 3-D objects; calculate the theoretical probability of an event; interpret a scatter plot to determine the relationship between two variables.

MAP score range: 670–709.

Proficient

Students identify equivalent representations of a number; identify mental strategies to solve problems; solve multi-step equations; use symbolic algebra; identify transformations; classify angles; create similar polygons; use coordinate geometry; solve problems involving area; identify appropriate units of measure; convert standard units within a system of measurement; interpret graphic organizers; calculate measures of center.

MAP score range: 710–740.

Advanced

Students estimate the value of square roots; write numbers using scientific notation; solve two-step inequalities; analyze slope and intercept in linear equations; apply the Pythagorean Theorem using coordinate geometry; identify polygons based on their attributes; identify coordinates of vertices of a transformed polygon; use a protractor to measure angles; solve problems involving surface area; select, create, and use appropriate graphical representation of data.

MAP score range: 741–885.

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Mathematics Abbreviated Achievement-Level Descriptors

Grade 10

Below Basic

Students use rules of exponents to create equivalent numbers; extend and generalize numerical patterns; use visual models to represent 3-D figures; use constructions to represent reflections; determine volume of geometric figures; use diagrams to estimate measurements; predict outcomes using probability.

MAP score range: 555–694.

Basic

Students compute numbers mentally; determine an equation that represents a quantitative relationship; use algebraic relationships to solve problems; solve for angles of parallel lines cut by a transversal; identify characteristics of surveys and sample groups; calculate central tendencies; use graphical representation of data.

MAP score range: 695–737.

Proficient

Students justify estimates; solve problems using coordinate planes; solve quadratics; evaluate algebraic expressions; identify an appropriate mathematical model based on data; identify equivalent algebraic expressions; solve area problems; analyze precision of computations; use unit analysis to solve problems; use proportions to solve conversion and rate problems; apply statistical concepts; describe shape of distribution of data.

MAP score range: 738–784.

Advanced

Students apply formulas to solve problems on a coordinate plane; use rules of exponents to simplify expressions; determine the equation of a straight line on the coordinate plane; compare linear properties of functions; compare area of similar polygons; determine compound probability; evaluate accuracy of a graph.

MAP score range: 785–910.

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Sample Reports

Features Included on All Reports

A The assessment series name always appears here for easy identification.

B The name of the report is presented next. In this example, it is the Student Roster.

C This area of the report is reserved for the name of the individual or group taking the assessment.

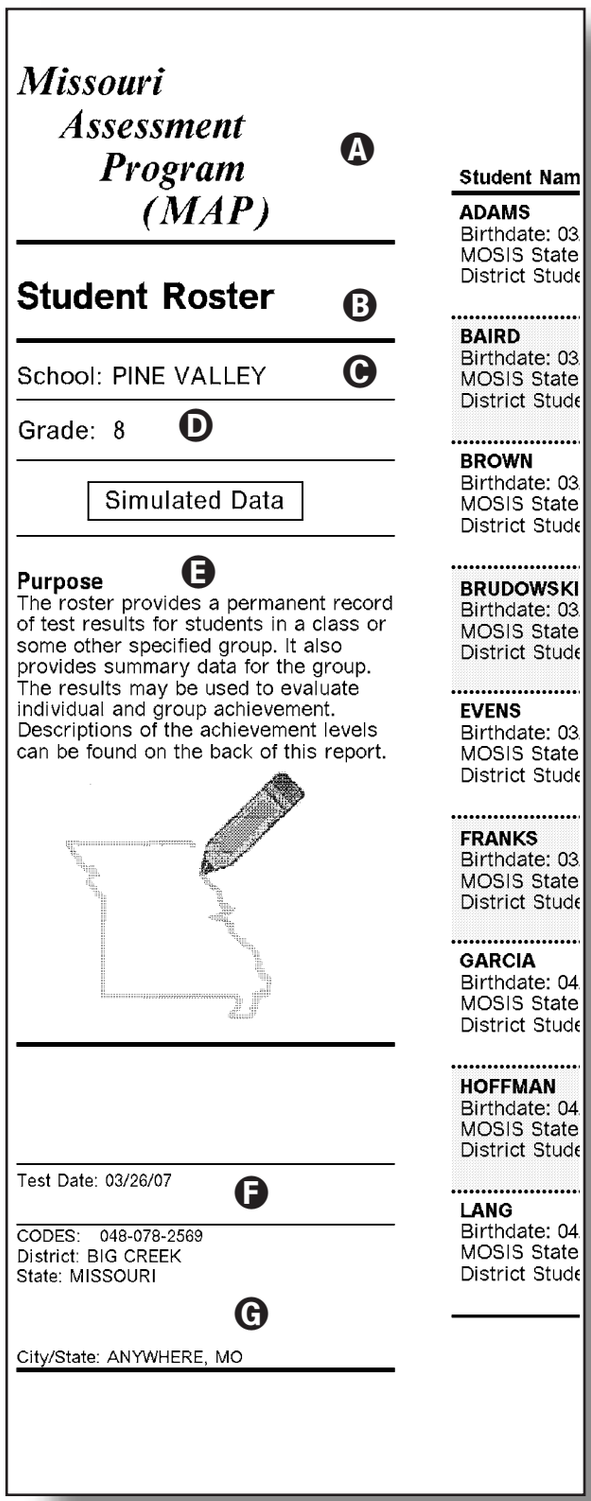
D The grade level of the individual or group is always included on the reports. Each report contains results for one grade level.

E Every report contains a purpose statement (the reason for the report and how the information may be used).

The lower part of the left panel provides the information about the test and the students. This information includes the following:

F Test date (first day of testing window)

G School, district, city, and state (all data not necessarily included on every report)


Missouri Assessment Program (MAP) A

Student Roster B

School: PINE VALLEY C

Grade: 8 D

Simulated Data

Purpose E

The roster provides a permanent record of test results for students in a class or some other specified group. It also provides summary data for the group. The results may be used to evaluate individual and group achievement. Descriptions of the achievement levels can be found on the back of this report.

Test Date: 03/26/07 F

CODES: 048-078-2569
District: BIG CREEK
State: MISSOURI

G

City/State: ANYWHERE, MO

Student Nam

ADAMS
Birthdate: 03
MOSIS State
District Stude

BAIRD
Birthdate: 03
MOSIS State
District Stude

BROWN
Birthdate: 03
MOSIS State
District Stude

BRUDOWSKI
Birthdate: 03
MOSIS State
District Stude

EVENS
Birthdate: 03
MOSIS State
District Stude

FRANKS
Birthdate: 03
MOSIS State
District Stude

GARCIA
Birthdate: 04
MOSIS State
District Stude

HOFFMAN
Birthdate: 04
MOSIS State
District Stude

LANG
Birthdate: 04
MOSIS State
District Stude

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Student Roster

The Student Roster provides a permanent record of test results for students in a school by content-area/grade-level assessment. It also provides summary data for the group and identifies students who are below proficiency in a test area. The results may then be used to evaluate individual and group achievement. Descriptions of the achievement levels can be found on the back of each report page.

A This report presents group results. Students are listed alphabetically with a group summary at the end of the student listing. Read horizontally for the individual student's performance and vertically to the end of the listing for group performance. There are five columns of information.

B The information in the first column reflects what the district indicated on the Student Information Sheet at the time of testing.

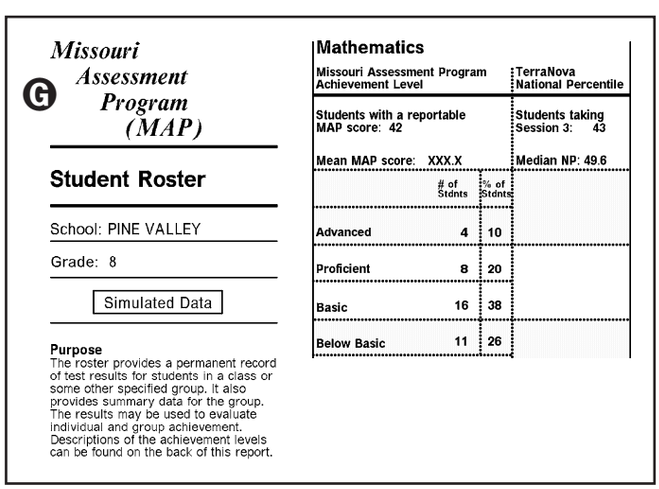
C The second column is the MAP achievement level. A student must take all sessions in order to receive a MAP Scale Score and achievement level. The assigned level is given along with the score range for the student's achievement level and the student's actual assigned MAP score. The student's MAP score can be compared with the MAP score range for the level to determine how close the student is to the next-higher level. It may also show that a student just reached the level reported. An achievement level of Basic or Below Basic indicates that the student may need assistance in that test area.

D The third column is the *TerraNova* National Percentile (NP) score. *TerraNova* NPs are given to students who took the NP subset of items in the test. This score compares each student's performance to that of the national sample group. An NP score of 65, for example, means that the student's score is higher than the scores of 65 percent of the students in the national sample group for that student's grade.

E The fourth column gives the student's Lexile Score from *The Lexile Framework for Reading*—a scale that matches reader ability with appropriate reading materials. The score is the point on the Lexile scale where a reader can be expected to comprehend 75 percent from a list of recommended reading materials. Note: Lexile scores are only reported for Communication Arts, and are derived from *TerraNova* Reading items only.

F This column gives the reason an achievement level was not determined, if applicable.

G The scores of the students on the roster are summarized on the last page of the roster. The average MAP score is reported, as well as the median NP and the number and percentage of students at each achievement level.


G

Missouri Assessment Program (MAP)

Student Roster

School: PINE VALLEY

Grade: 8

Simulated Data

Purpose
The roster provides a permanent record of test results for students in a class or some other specified group. It also provides summary data for the group. The results may be used to evaluate individual and group achievement. Descriptions of the achievement levels can be found on the back of this report.

Mathematics

Missouri Assessment Program Achievement Level			TerraNova National Percentile
Students with a reportable MAP score: 42			Students taking Session 3: 43
Mean MAP score: XXX.X			Median NP: 49.6
	# of Stdnts	% of Stdnts	
Advanced	4	10	
Proficient	8	20	
Basic	16	38	
Below Basic	11	26	

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Missouri Assessment Program (MAP)

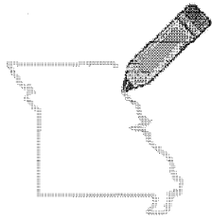
Student Roster (A)

School: PINE VALLEY

Grade: 8

Simulated Data

Purpose
The roster provides a permanent record of test results for students in a class or some other specified group. It also provides summary data for the group. The results may be used to evaluate individual and group achievement. Descriptions of the achievement levels can be found on the back of this report.



Test Date: 03/26/07

CODES: 048-078-2569
District: BIG CREEK
State: MISSOURI

City/State: ANYWHERE, MO

(B) Student Name	(C) Communication Arts: Missouri Assessment Program Achievement Level	(D) TerraNova NP	(E) Lexile Score	(F) Reason for Level Not Determined **
ADAMS SARAH Birthdate: 03/21/90 MOSIS State ID: 0123456789 District Student ID: 9876543210	**	**		** Session 1: Invalidated ** Session 2: No valid attempt
BAIRD JON M Birthdate: 03/23/90 MOSIS State ID: 1234567890 District Student ID: 8765432109	**Proficient** **MAP score range: 696-722** **MAP score: 702**	**NP: 55**	**Lexile: 1235**	
BROWN STEVE Birthdate: 03/25/90 MOSIS State ID: 2345678910 District Student ID: 7765432109	**Below Basic** **MAP score range: 530-638** **MAP score: 588**	**NP: 10**	**Lexile: 1233**	
BRUDOWSKI ANN Birthdate: 03/27/90 MOSIS State ID: 2345678919 District Student ID: 7765432100	**Proficient** **MAP score range: 696-722** **MAP score: 711**	**NP: 75**	**Lexile: 1236**	
EVENS BETTY L Birthdate: 03/29/90 MOSIS State ID: 3345678910 District Student ID: 6665432109	**	**		** Exempt from taking Comm. Arts test ELL < 1 yr
FRANKS ALAN Birthdate: 03/31/90 MOSIS State ID: 0045678910 District Student ID: 0065432109	**Advanced** **MAP score range: 723-875** **MAP score: 795**	**NP: 82**	**Lexile: 1238**	
GARCIA IAN W Birthdate: 04/01/90 MOSIS State ID: 0005678910 District Student ID: 0005432109	**	**		** Eligible for MAP-Alternate Assessment
HOFFMAN DEBBIE Birthdate: 04/03/90 MOSIS State ID: 0000678910 District Student ID: 0000432109	**Basic** **MAP score range: 639-695** **MAP score: 659**	**NP: 17**	**Lexile: 1233**	
LANG SCOTT C Birthdate: 04/05/90 MOSIS State ID: 2345678910 District Student ID: 7765432109	**Proficient** **MAP score range: 696-722** **MAP score: 709**	**NP: 61**	**Lexile: 1237**	

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Student Report

The Student Report provides information about performance on the MAP, describing results in terms of four levels of achievement in a content area. It is used for instructional planning, as a point of reference during a parent/teacher conference, and for permanent record keeping. Other sources of information should be used along with this report when determining the student's areas of strength or need.

Achievement-level scores describe what students can do in terms of the content and skills assessed by the MAP. Teachers, students, and parents/guardians can use this information to determine what skills and abilities need to be acquired to enable the student to progress to higher achievement levels. A student in the Proficient or Advanced level has met the standard. Students in the Below Basic and Basic levels need to work on the skills described in that level, as well as skills in the next-higher level.

A The graphed bar extends horizontally, reflecting the student's MAP Scale Score, which is also printed to the left of the graph. This score may be compared to the MAP score range at the bottom of the Descriptions text for the level. The comparison shows how close the student is to the next-higher level. "MAP scale score" denotes the completion of all test sessions. If one or more test sessions were not taken, the student would not have a MAP Scale Score or an assigned achievement level.

B This section identifies the number of points possible and the percent of points earned for each Content/Knowledge Standard (Grade Level Expectation Strand). The number of points possible is given so that you may see the weight of the standard in the MAP. Ranking the percent of points earned from low to high indicates the content/knowledge areas most in need of improvement. Identify those standards in which a student's performance is low. Use Grade Level Expectations and supporting documents from the DESE website (http://dese.mo.gov/standards/index.html) to determine what type of instructional assistance can and should be provided to achieve the Show-Me Standards.

C This section identifies the number of points possible and the percent of points earned for each Process/Performance Standard.

D The *TerraNova* National Percentile is a nationally norm-referenced score that compares the student to a normative sample of students in the nation. In this example, the student has an NP score of 64, which means she scored better than 64 percent of the students in the nation who took *TerraNova*.

The student's Lexile Score is from The Lexile Framework for Reading—a scale that matches reader ability with appropriate reading materials. The score is the point on the scale where a reader can be expected to comprehend 75 percent from a list of recommended reading materials. On the MAP, Lexile scores are only reported for Communication Arts, and are derived from TerraNova Reading items only. A list of reading titles at different Lexile Scores is available on the DESE website (http://www.dese.mo.gov/divimprove/assess/molexilemap.pdf).

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Missouri Assessment Program (MAP)

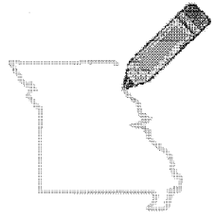
Student Report

SARA ARMSTRONG

Grade: 8

Simulated Data

Purpose
This report provides information about performance on the Missouri Assessment Program. It describes performance in terms of four levels of achievement in a content area. It is used for instructional planning, as a point of reference during a parent-teacher conference, and for permanent-record keeping.



Birthdate: 06/23/93

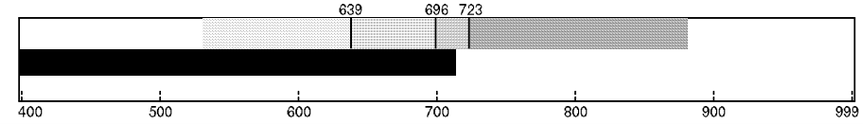
Test Date: 03/26/07

CODES: 048-078-2569
School: PINE VALLEY
District: BIG CREEK
State: MISSOURI

City/State: ANYWHERE, MO

Communication Arts

Scale Score: 710 (A)
Proficient



Achievement Level Descriptions

Goal is Proficient or Advanced

Advanced
Reading-Students analyze complex information, author's purpose, characters; synthesize information; summarize complex ideas; make complex inferences. Writing-Students edit text correctly applying the rules/conventions of Standard English.

MAP score range: 723-875.

Proficient
Reading-Students summarize; infer vocabulary meaning and cause/effect; interpret figurative language; analyze text features; follow multi-step directions; identify author's technique; analyze text; make inferences, interpretations, predictions, comparisons, using complex material; evaluate evidence, reliability of resources. Writing-Students edit for relevant details and purpose; organize and edit text; consistently use rules/conventions of Standard English.

MAP score range: 696-722.

Basic
Reading-Students define simple vocabulary; identify main idea; draw simple conclusions; make simple inferences; recall details from text; determine reliability of resources. Writing-Students write a paragraph to a specific audience.

MAP score range: 639-695.

Below Basic
Reading-Students identify author's purpose, figurative language, plot, and setting; use context clues to choose vocabulary. Writing-Students create a graphic organizer; write a basic paragraph; show some awareness of audience.

MAP score range: 530-638.

The achievement level indicates your child can perform the majority of what is described for that level and even more of what is described for the levels below. Your child may also be capable of performing some of the competencies described in the next higher level, but not enough to have reached that level of performance.

Content/Knowledge Standards (Grade Level Expectation Strands) (B)

Students will have a solid foundation of

	# of points possible	% of points earned
1. speaking and writing Standard English (including grammar, usage, punctuation, spelling, capitalization)	15	63
2. reading and evaluating fiction, poetry and drama	19	65
3. reading and evaluating nonfiction work and materials (such as biographies, newspapers, technical manuals)	34	75
4. writing formally (such as reports, narratives, essays) and informally (such as outlines, notes)	NA	

Process/Performance Standards (C)

Students will demonstrate within a content area the ability to

	# of points possible	% of points earned
Goal 1 - Gather, analyze & apply information		
Standard 5 - comprehend/evaluate resources	6	60
Standard 6 - discover/evaluate relationships	23	60
Goal 2 - Communicate effectively		
Standard 2 - revise communications	15	60
Goal 3 - Recognize & solve problems		
Standard 5 - reason logically	18	65

***TerraNova* National Percentile: 64** **Lexile Score: 1234**
TerraNova is a multiple-choice test. In Reading, your student scored better than 64 percent of the students in the nation. (D)

The Lexile Framework for Reading is a reading scale which matches reader ability with appropriate reading materials. See enclosure for more information.

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Student Label

The label can be affixed to a student's permanent folder, thereby providing a record of the student's achievement on the MAP.

Missouri Assessment Program	Content Area	**Communication Arts**
	Achievement Level	**Proficient**
WEBBER, PEGGY	Missouri Assessment Program (MAP) Score	**727**
Grade: 11	MAP Score Range	**725-752**
Test Date: 03/26/07		
DOB: 02/26/90	TerraNova NP	**64**
MOSIS State ID: 0123456789	Lexile Score	**1234**

Summary Report

The Summary Report shows the number and percentage of students locally in each of the four achievement levels. Instructional priorities can be established using this information along with data from other district sources.

A Students in the Reportable column include all students who made a valid attempt on all sessions of the MAP. These students received a MAP achievement-level score and are represented in their respective achievement levels in both the Reportable and Accountable columns. The total number of students in the Reportable category and the percent calculations for each achievement level include only those students with a MAP achievement-level score.

B The total number of students in the Accountable column should equal the grade-level enrollment at the time the MAP was administered.

The number of students reported in each of the four achievement levels is the same for "Reportable" and "Accountable" because only students with a valid attempt on all sessions of the test are assigned an achievement level. The percentage of students in the Reportable column is based on the sum of all four achievement levels. The Accountable column adds a "Level Not Determined" that includes all students who do not have an assigned achievement level. The percentage of students is based on the sum of all four levels plus Level Not Determined.

C The report gives "can do" statements (descriptions) for each achievement level. Students at a given level can perform the majority of what is described for that level and even more of what is described for the levels below. Students may also be capable of performing some of the goals described in the next-higher level.

D *TerraNova* National Percentile summary scores provide comparisons across grades and content areas. Consideration should always be given to the number of students contributing to mean or median scores. Larger numbers of students yield a more stable, reliable picture of performance.

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Missouri Assessment Program (MAP)

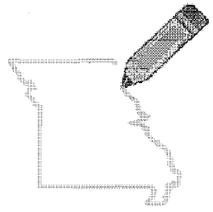
Summary Report

District: BIG CREEK

Grade: 8

Simulated Data

Purpose
This report shows the number and percent of students locally in each of the four achievement levels. Instructional priorities can be established using this information along with other sources.



Test Date: 03/26/07

CODES: 048-078
State: MISSOURI

City/State: ANYWHERE, MO

Mathematics

Achievement Levels	A Reportable	B Accountable	C Descriptions
ADVANCED	1% 3 Students	1% 3 Students	Students estimate the value of square roots; write numbers using scientific notation; solve two-step inequalities; analyze slope and intercept in linear equations: apply the Pythagorean Theorem using coordinate geometry; identify polygons based on their attributes; identify coordinates of vertices of a transformed polygon; use a protractor to measure angles; solve problems involving surface area; select, create, and use appropriate graphical representation of data. MAP score range: 741-885.
PROFICIENT	10% 33 Students	9% 33 Students	Students identify equivalent representations of a number; identify mental strategies to solve problems; solve multi-step equations; use symbolic algebra; identify transformations; classify angles; create similar polygons; use coordinate geometry; solve problems involving area; identify appropriate units of measure; convert standard units within a system of measurement; interpret graphic organizers; calculate measures of center. MAP score range: 710-740.
BASIC	29% 96 Students	27% 96 Students	Students perform operations with rational numbers; solve and interpret one-step linear equations; extend geometric patterns; generalize patterns to find a specific term; identify relationships in 3-D objects; calculate the theoretical probability of an event; interpret a scatter plot to determine the relationship between two variables. MAP score range: 670-709.
BELOW BASIC	38% 125 Students	37% 125 Students	Students generalize numeric patterns; generalize relationships between attributes of 2-D shapes; identify the results of subdividing 3-D shapes; identify 3-D figures using a 2-D representation; solve problems involving area; use scales to estimate distance; interpret graphs; find the mean value of a data set; select graphical representations of data; interpret data; make conjectures based on theoretical probability. MAP score range: 525-669.
LEVEL NOT DETERMINED		6% 20 Students	Students in this category are absent or did not have a valid attempt on one or more test sessions. A valid attempt on all sessions of the test is necessary in order to receive a MAP score. The valid attempt rules are as follows: 1. Attempt any five items or get one correct in the TerraNova item group. 2. Attempt one item in each session for all other test sessions.
Total Number of Students	257	277	

TerraNova National Percentile

NP of Mean NCE*:	55
Median NP:	54.0
D No. Students with TerraNova scores:	330

The number of students reported in each of the 4 achievement levels is the same for "Reportable" and "Accountable" because only students with a valid attempt on all sessions of the test are assigned an achievement level. The percentage of students in the Reportable column is based on the sum of all 4 achievement levels. The Accountable column adds a "Level Not Determined" that includes all students who do not have an assigned achievement level. The percentage of students is based on the sum of all 4 levels plus Level Not Determined.

*National Percentile of the Mean Normal Curve Equivalent

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CTB
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